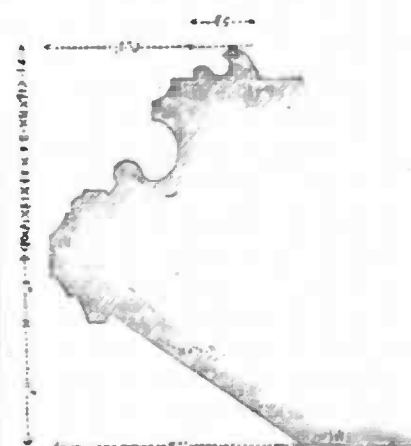
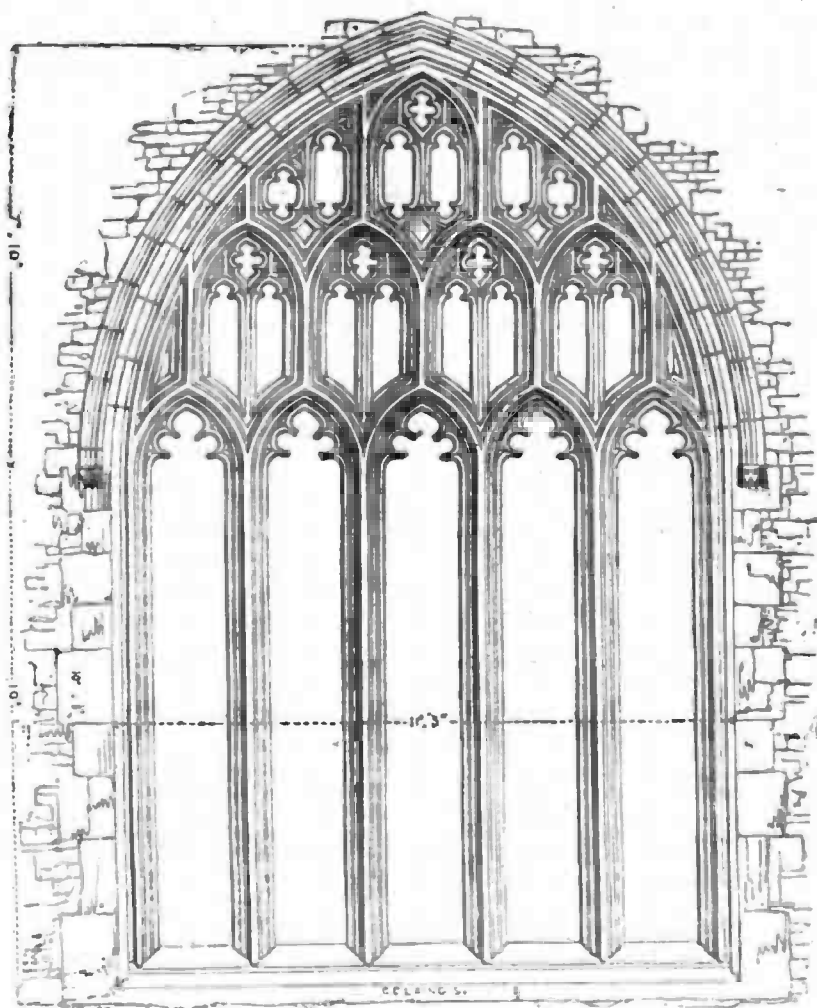


## PERPENDICULAR WINDOW AT BIRCHINGTON CHURCH.



Plan of Jamb.

## PERPENDICULAR WINDOW FROM BIRCHINGTON CHURCH, THANET.

THIS church (which is dedicated to All Saints) contains little worthy of notice with the exception of the perpendicular windows, which are of good design. The best of these, the east window of the chancel, is the subject of the present illustration and by far the finest window in the church: the mouldings are better than those in many windows of even greater pretensions. The illustration consists of an exterior elevation of the window, with an enlarged plan of the jamb.

## SUGGESTIONS FOR THE IMPROVEMENT OF SEWERS.

BY JOHN PHILLIPS.\*

PREVIOUS to the commencement of the present century many miles of sewers, which are designated old in contradistinction to those which have been built since, were constructed with wide horizontal bottoms formed of bricks laid flat, or on edge, with thick upright side-walls and semicircular arched crowns; and both the materials and the workmanship are of the worst possible description, and they are in a state of great dilapidation. Nearly the whole of these sewers, however, were put in at a time when the authorities did not exert much if any influence over their arrangement and construction, and when the subject was not considered to be of such paramount importance to the public as it is now held to be. Moreover, when these sewers were built, a system of good and efficient drainage and sewerage, based upon sound principles of science, seems not to have been understood or practised, consequently many miles in length have been put in without the least attention being paid to placing them in a proper position at their outfalls, or reference being had to their extension to the more distant parts of the districts. Indeed, it is manifest that many of them have been placed in the ground merely for the purpose of suiting their own immediate localities requiring to be drained; and even then (from their form being the worst that could possibly be devised), not with a view to providing good and proper facilities for assisting the discharge of the drainage and sewage carried into them from the surface and premises contiguous; besides they have been built so carelessly and irregularly, that the falls in many instances are arranged contrary to their discharge. The

extraordinary large size and improper form of these old sewers are the cause of much of the great evil which still exists, for nearly the whole of them retain the matter discharged into them instead of affording means for carrying it off, consequently they are a vast system of stagnant cesspools, and a great pest, nuisance, and expense to the inhabitants.

Although some improvement has taken place in the formation of sewers during the last thirty years, still many miles have been constructed, both as to arrangement and form, nearly, if not quite as bad as the old flat-bottomed sewers themselves, for vast numbers of those that are termed new are actually in the same abominably filthy condition as the old ones. The inverts of the form which superseded the old are curved, yet from these curves being exceedingly flat, the very diminutive and slender streams become spread over their surface, and therefore have not sufficient velocity or power to lift up and carry off the matter: consequently, these hollow channels very soon become filled with soil, the flat surface of which as it accumulates, forms the artificial beds for the water to run or lie on.

Regurgitations, eddies, and retardations are caused in all streams which flow or strike into each other, where collateral channels are formed at right angles to recipients, and this irregularity produces considerable deposits of heavy matter and silt at those parts. Whenever the channels of sewers are formed in this manner, the deposits which will accumulate from the improper arrangement entirely destroy their efficiency, and that too for some distance on the up stream side, according to the height of the accumulations, and the inclinations of the channels. Nearly all the old sewers, as also house drains, are connected with each other at right angles or nearly so, and indeed so are many sewers which are com-

See p. 473 ante.